

An Integrated Approach for Assessing the Condition of the Coastal Wetlands of the United States: Survey and Response Design and Indicator Selection

Authors: Janet Nestlerode, Stephen Jordan, Virginia Engle, James Harvey, Linda Harwell, John Macauley, Lisa Smith

U.S. EPA/Office of Research and Development (ORD)/National Health and Environmental Effects Research Laboratory (NHEERL)/Gulf Ecology Division

Keywords: wetlands in the ecosystem, ecological conditions, wetlands definitions, wetland monitoring, assessment initiative

Evaluating the condition of coastal wetlands, particularly over large geographic scales, is complicated by the fact that the properties of wetlands vary temporally, spatially, and by type, and these variations affect the functional roles of wetlands in the ecosystem. The US EPA's Environmental Monitoring and Assessment Program's (EMAP) National Coastal Assessment (NCA) uses measurements of selected indicators to estimate the ecological condition of the nation's near-coastal, open-water environments and provide regional and national assessments of the status of estuaries. The Office of Research and Development (ORD) is developing approaches to assess the ecological condition of coastal wetlands and shallow, near-coastal habitats on regional and national scales. A probability-based survey design will be developed to yield statistically unbiased estimates of wetland condition based on ecological indicator measurements over regional and national scales. Indicators, methods, wetlands definitions, and survey designs are likely to differ among the coastal regions of the US. Therefore, existing wetland assessment approaches will be considered and evaluated for inclusion in technical guidance for EPA Office of Water and potential regional partners, such as the US Integrated Ocean Observing System's (IOOS) regional associations. This wetland monitoring and assessment initiative will yield information that could be used to prioritize wetland protection and restoration to aid recovery of impaired waterbodies, develop design and performance measures for compensatory wetland mitigation projects, and assist States and Tribes in their reporting on the conditions of coastal wetlands through consistent, uniform, and cost-effective monitoring and assessment approaches. Moreover, this information will assist the US EPA in complying with the policy goal of "no net loss" of wetland acreage or ecological function set by the White House in 1989, implicit in the policies established by Congress in Section 101 of the Clean Water Act (CWA) and regulated under CWA Section 404.

Point of Contact:

Janet Nestlerode

Ecologist

U.S. EPA/ORD/NHEERL/Gulf Ecology Division

1 Sabine Island Drive

Gulf Breeze, FL 32561-5299

850-934-2492

nestlerode.janet@epa.gov